THERAPEUTICS

UNDER THE CHARGE OF

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Tubing as a Cause of Reaction to Intravenous Injection, Especially of Arsphenamin.—From a study of the "tubing reaction" following the administration of arsphenamin through new tubing, STOKES and BUSMAN (*Jour. Am. Med. Assn.*, 1920, lxxiv, 1013) conclude that "A certain widely distributed brand of so-called pure gum rubber tubing seems to contain, when new, a toxic agent responsible for a definite type of reaction following the intravenous administration of arsphenamin, and possibly also of alkaline solutions and transfusion mediums." The toxic substance gradually disappears from the tubing on use. It is not destroyed by the ordinary sterilization by boiling, is insoluble in water, appears in toxic amounts in arsphenamin, dilute NaOH solutions, etc., merely by passing them through a new tube en route from container to vein, and is not apparently associated with the mechanically removable debris from the inner surface of the tube. The toxic substance is apparently removable in the first instance by soaking the tubing for six hours in normal NaOH solution and rinsing. The reaction induced by this toxic agent consists of chills coming on from thirty to sixty minutes after injection, with nausea, vomiting, diarrhea, a sharp rise in temperature, headache, lumbar cramps, etc. The reaction was induced by the authors in typical form in dogs.

Treatment of Leukemia with Deep Roentgenotherapy.—ROSENTHAL (*Berl. klin. Wchnschr.*, 1919, lvi, 1113, abstracted in the *Journal of American Medical Association*, April 17, 1920) reports striking results in the treatment of leukemia with deep roentgenotherapy. In addition to the reduction in the number of leukocytes and diminution in the size of the spleen, the chief value lies in the disappearance of the subjective symptoms in cases in which other therapeutic methods had failed. He gives in detail the history of a case that has been observed now for three years in which after several treatments distinct improvement occurred. For five or six months after each treatment the patient felt well and was able to work, then there was a recurrence of symptoms promptly relieved by a new treatment. He considers that the roentgen ray is the most reliable treatment in leukemia. Severe reactions, however, do occur. He recommends that the treatment be intermittent.

Administration of Arsphenamin by Retention Enema.—MANDRACCHIA (*Med. Record*, 1920, xcvii, 144) advocates the administration of arsphenamin by the retention enema method. In the gynecological section of

the Metropolitan Hospital this method has been employed in 25 cases representing the various stages of syphilis. Twenty per cent. of these cases have been completely cured serologically and clinically; 36 per cent. have improved clinically and the Wassermann reactions changed from four plus to two plus. In 40 per cent. the Wassermann reaction was unaffected but the patients showed marked clinical improvement. When these arsphenamin enemas were first started there was some apprehension as to possible local injury to the alimentary tract. About 500 of these enemas have now been given with no apparent injury. Mandracchia believes that the drug undergoes some chemical change in the intestinal tract. He concludes that there are no contra-indications to this method of administration and that the slow absorption is an advantage in preventing the production of nitroid crises. For the technic of the enema method of administering arsphenamin, the reader must consult the original article.

Inhalation Treatment in Pulmonary Tuberculosis.—ROBINSON (*Med. Record*, 1920, xcvii, 143) believes that creosote is the only drug which, when properly used, is of real value in the cure of pulmonary tuberculosis. He generally uses a mixture of equal parts of beechwood creosotes spirit of chloroform and alcohol. Ten to twenty drops of this are poured upon the moistened sponge of a perforated zinc inhaler. With practice the patient can wear this inhaler almost constantly with little or no discomfort, the drops on the sponge being renewed whenever the odor of creosote becomes less appreciable. If creosote is given by mouth it should be in small, repeated doses. Given undissolved in capsules it is often upsetting to the stomach. During any treatment with creosote it is necessary to examine the urine every day or two; if albumin appears the length of time or the frequency of use must be lessened.

Experience with the Schick Test and Toxin-antitoxin and a Plea for Their Use in the Extinction of Diphtheria.—LILLY (*Boston Med. and Surg. Jour.*, 1920, clxxxii, 110) has drawn the following conclusions from his experiences with the Shick test and the toxin antitoxin immunization of children susceptible to diphtheria. He believes that in institutions, schools or communities where diphtheria has been prevalent for a considerable period of time the universal taking of cultures is practically useless. A non-virulent bacillus is often found to be persistent in the throats of so-called chronic diphtheria carriers. He believes that repeated passive immunization does not protect and that such immunization lasts less than three weeks. He found that toxin-antitoxin does give absolute and persistent immunity to diphtheria when more than one month has elapsed after its administration. Reactions are much less frequent and severe. On the other hand, toxin-antitoxin has no curative properties and does not immediately protect against diphtheria. He is also of the opinion that the Schick test is not rapid enough to be of immediate use in cases exposed to clinical diphtheria and should be used only to separate immunes from non-immunes. The active immunization of non-immunes should be used to protect susceptibles when there is no immediate necessity to protect life. He believes that in the general use of the active immunization of non-immunes we have a means of exterminating diphtheria.

Mercuric Chloride Poisoning from Vaginal Injections: Two Fatal.—BLAND (*Jour. Am. Med. Assn.*, 1920, lxxiv, 1227) gives details of three cases of mercuric chloride poisoning following the vaginal injection of strong solutions for the prevention of conception or the induction to abortion. Two patients died, the fatal outcome being due to complete suppression of urine. In each case there was a violent local reaction for which local agents had been applied without relief. Details of the history and course of illness of each case are given, with blood analyses, etc. The treatment is not detailed. In the same issue of the *Journal* (p. 1230), De Porte gives the case of a woman who died from acute traumatic nephritis about twenty-four hours after the insertion of two 7.3 grain mercuric chloride tablets into the vagina to prevent conception.

A Comparison of Methods for Determining Thyrotoxicosis.—From observations on a selected group of 11 cases, WOODBURY (*Jour. Am. Med. Assn.*, 1920, lxxiv, 997) concludes that complete methods of examination with special attention to the possibility of errors in case of psychoneurotic patients should furnish the basis for diagnosis, rather than reliance on any functional test, though these tests are of great value in the compilation of evidence, especially in relation to the degree of toxicity. He found the epinephrin chloride test clear, positive, and of moderate degree in 6 cases; clear, positive, and of more marked degree in 5. Basal metabolism results in the 11 cases were: 11 per cent. high; 6 per cent. low; 5 per cent. high; 8 per cent. high; 8 per cent. high; 20 per cent. low; 4.5 per cent. low; 14 per cent. low; 2 per cent. high; 7 per cent. high; and one, flat normal. Readings not varying more than 15 per cent. from the normal were regarded as normal. On section, the eleven thyroids all showed definite abnormalities of a type suggesting functional overactivity.

Meningitis Treated by Intrathecal Injections of the Patient's Blood Serum.—The clinical features and the character of the cerebrospinal fluid in the case reported by WATERHOUSE (*British Med. Jour.*, January 10, 1920, p. 45) were typical of cerebrospinal fever, although the meningococcus was absent from the spinal fluid. The fact that the examination was not made until the eighth day of the disease probably accounts for their absence. On admission the patient appeared desperately ill and the next two days the symptoms increased in severity. It was therefore decided to try the effect of intrathecal injections of the patient's own blood serum. Five injections were given in all. Improvement set in from the time of the first injection and recovery was rapid and complete. Helmitol (at first 10 grains every four hours until hematuria appeared, when the dose was reduced by half) was also given, but the author attributes the recovery of an apparently hopeless case to the intrathecal injections of serum.

Studies on Experimental Pneumonia. IV. Results of Prophylactic Vaccination Against Pneumococcus Pneumonia in Monkeys.—CECIL and BLAKE (*Jour. Exp. Med.*, 1920, xxxi, 519) found that subcutaneous inoculation of monkeys with pneumococcus Type I vaccine in doses

comparable with those employed in man did not protect them against pneumonia from either Type I or Type IV pneumococcus. However, invasion of the blood stream by pneumococcus in vaccinated animals was usually slight and the proportion of recoveries considerably higher. Pneumococcus saline vaccine, while failing to protect the animal against pneumonia, produced a greater amount of protective substance in the serum than did pneumococcus lipovaccine, and is probably a better antigen. The vaccination gave definite protection against experimental pneumococcus septicemia; thus, vaccination may induce a humoral immunity without protecting against intratracheal infection. A strict analogy cannot be drawn between pneumococcus immunity in monkeys and in man, since in the latter a considerable amount of resistance already exists, while monkeys are highly susceptible to pneumococcus infection.

Protective Inoculation Against Influenza.—WYNN (*British Med. Jour.*, February 21, 1920, p. 254) advocates the use of a vaccine containing equal numbers of Pfeiffer's bacilli and various strains of pneumococcus and streptococcus recently isolated. With pneumococcus only first cultures are used, with streptococci either primary or first subcultures. He gives two doses, 200 million and after one week 400 million. During the epidemic period of 1918–19, of 680 persons injected only 14 developed influenza, and 4 of these were attacked three months after the last injection. In all cases the disease was mild and there was no pneumonia. Wynn reviews at some length results obtained from protective inoculation by both British and American observers.

The Therapeutic Value of Oxygen in Pulmonary Lesions: Preliminary Note.—Observations on two cases of pneumonia, one of bronchitis, and on a normal individual, led MEAKINS (*British Med. Jour.*, March 5, 1920, p. 324) to conclude that in certain respiratory diseases when there is anoxemia of the arterial blood the administration of oxygen will diminish this anoxemia and so relieve the cyanosis. If the oxygen be given in sufficient concentration in the inspired air the arterial saturation with oxygen may be raised above normal in both normal individuals and those suffering from respiratory diseases. The method of administration was that devised by Haldane.

Severe Mercurial Stomatitis Caused by the Administration of Calomel.—GORDIN (*Jour. Am. Med. Assn.*, 1920, lxxiv, 1163) reports two severe cases of mercurial stomatitis following the use of calomel as a cathartic: an acute case, in which the patient died on the seventeenth day after the ingestion of 2 grains of calomel and a case of thirteen years' standing showing the results after recovery. In addition to these 2 severe cases a number of milder cases of salivation have been seen by the writer. It is definitely known that the action of calomel as a cathartic is simply a mechanical irritation, due to the metallic mercury liberated, and that it has no action on the liver. He concludes that there are many efficient cathartics which are less dangerous than calomel.